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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/298,372 04/23/99 KANG

S DEC99-34

EXAMINER

WM02/0629

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ART UNIT

PAPER NUMBER

2614

DATE MAILED:

06/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/298,372

Applicant(s)

KANG ET AL.

Examiner

BRIAN P. YENKE

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on PreAmendment A (23 April 1999).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/23/99 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 23 April 1999 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed, specifically:

a) "Concepts of Classical Optics" pages 346-349 was not provided, an abstract "Magnification, Aperture and Field" pages 346-349 was provided. It has been placed in the application file, but the information referred to therein has not been considered.

Also, no copy of US references listed on paper #2 (IDS) was provided. These references were considered and placed on the PTO-892 (annotated with an X).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Fig 4B, does not include "300" described on page 6, line 17.

Fig 4B, does not include "308" described on page 6, line 18. Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 10, 15, 20 and 25 recites the limitation "the model" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11-14, 16-19 and 21-24 are rejected under 35 U.S.C. 103(b) as being unpatentable over Florent et al in view of Shimoyama US 5,084,772,

In considering claims 1-4, 6-9, 16-19 and 21-24,

- 1) the claimed digitizing an image is met by digitization system 3 Fig 1A (col 4, line 32-41)
- 2) the claimed computing the effects of the imaging device based on pixel intensity drop off effects in the digitized image is met by sub assembly 4 and 47, where subassembly 4 determines the correction rules to be applied and where subassembly 47 subsequently applies the correction data. The correction data

compensates the geometrical, and errors for the optical imperfections of the lens system (vignetting) (col 1, line 39-46) and also geometric distortions produced by the camera 2 (Fig 1A).

However, does not specifically disclose an image which is textureless having a uniform illumination. Florent discloses a pattern M which may be square-shaped or rectangular, and may be a design on a white base support representing horizontal and vertical block bars (Fig 1A) or the system can use dots (col 7, line 55-62).

The use of a textureless image having a uniform illumination, i.e. white paper as disclosed by applicant is well known in the art, as taught by, Shimoyama US 5,084,772.

Specifically, Shimoyama teaches a shading correcting method which uses an object 10 (white paper) (Fig 3) to regulate the line sensors (coherency) for reading an image.

Although, Florent discloses a white background with black vertical/horizontal bars to determine the maximum and minimum pixel intensity for generating the correction data. Therefore, it would have been obvious to one skilled in the art to recognize that a blank image (with no vertical/horizontal bars) could also be used to determine/compute the effects on pixel intensity.

In considering claims 11-14,

Florent discloses a system where digitization system 3 provides a distorted digitized image SI (Fig 1) to optical center pre-determiner (subassembly) 4 to subassembly 4 determines the correction rules to be applied and where subassembly 47 subsequently applies the correction data. The correction data compensates the geometrical, and errors for the optical imperfections of the lens system (vignetting) (col 1, line 39-46) and also geometric distortions produced by the camera 2 (Fig 1A). Image generator 47 consists of memory 48, computing block 49 and image memory 50.

However, Florent does not specifically disclose an I/O system. As shown in Fig 1A, generator 47 receives an input and provides an output. Therefore, it would have been obvious to one skilled in the art to recognize that a separate system (I/O system) could be performed by making separable the function of generator 47 to send/retrieve the distorted/undistorted data respectively. (Also refer to comments above concerning uniform illumination).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Tamir et al., US 6,122,013; Robinson, US 6,016,161; Bruijns US 5,434,902; Barton et al, US 5,757,425**

Tamir et al., US 6,122,013 which teaches a perspective transformation computation unit that computes a perspective transformation by comparing the video image with a known pattern.

Bruijns US 5,434,902 and **Robinson, US 6,016,161** both teach the use of a textureless image having a uniform illumination.


Barton et al., US 5,757,425 teaches a method of calibrating an image sensor having an array of pixel sensor sites.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (703)305-9871. The examiner can normally be reached Monday-Thursday from 7:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Reinhard J. Eisenzopf, can be reached at (703)305-4711. The fax number for this group is (703)872-9314.

B.Y.

20 Jun 2001


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6-28-01